

# **Straight Line Diagrams A Decision Support Tool**

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## **Needs**

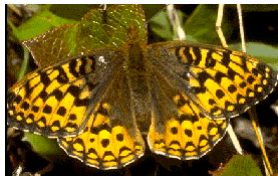
- **Facilitate better management of resources adjacent to the highway system.**
- **Give maintenance and construction managers tools that are useful.**
- **Provide an information database for managers and planners.**

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## Needs

### Accomplish mission within the constraints of “Key Environmental Regulations”

- Federal Endangered Species Act
- Clean Water Act
- National Environmental Policy Act
- National Forest Management Act



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## Plan

- A team of maintenance managers, field staff, and environmental staff reviewed maintenance activity for potential impacts to water quality and developed best management practices (BMPs) to minimize those impacts.
- A similar team reviewed maintenance activities for impacts to habitat. This review looked at the impacts that specific maintenance activities could have on habitat and fishery resources that are listed as threatened or endangered under the Federal Endangered Species Act.

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## Maintenance Activities

### Surfacing and Shoulder work



### Drainage Work



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## Maintenance Activities

### Bridge Work



### Vegetation Control



### Snow and Ice Removal



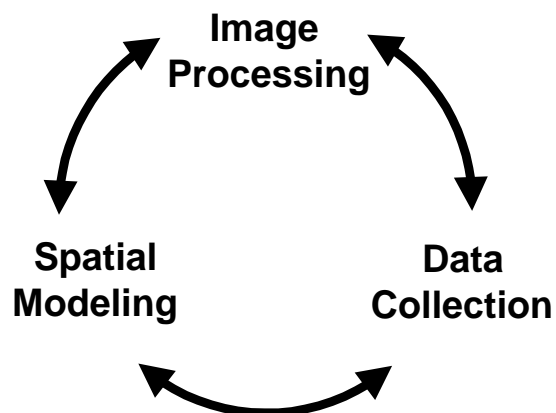
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## Objectives

- Provide information that will enable the agency to accomplish its goal of providing an effective transportation system, while actively protecting the environment.
- Provide information to personnel that will minimize the potential for violations of the Federal Endangered Species Act or the Clean Water Act.
- Provide information that will improve the ability to work with the National Marine Fisheries Service, the Department of Fish and Wildlife, the U. S. Fish and Wildlife Service, and the U. S. Army Corps of Engineers.

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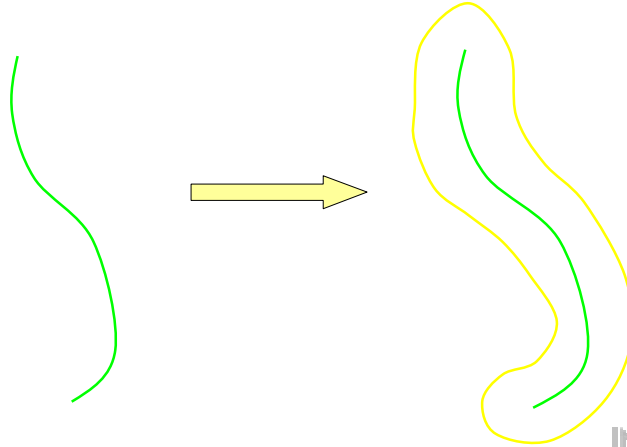
## Technical Approach



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## Field data production

buffer road network to create “cookie cutter” for transportation corridor



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## Field Verification/Classification



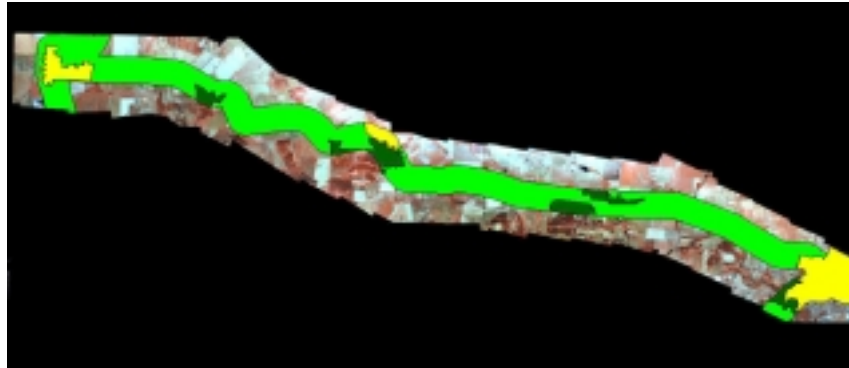
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## Imagery

- **Dominant Land cover Type**

- Agriculture, Urban, Forest, Shrub / Grass, Barren and Water



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## GIS data

### processing field data

- data returned in GIS format and theme-specific GPS points
- missing themes digitized off imagery using GPS points as guide
- theme elements removed based on field verification



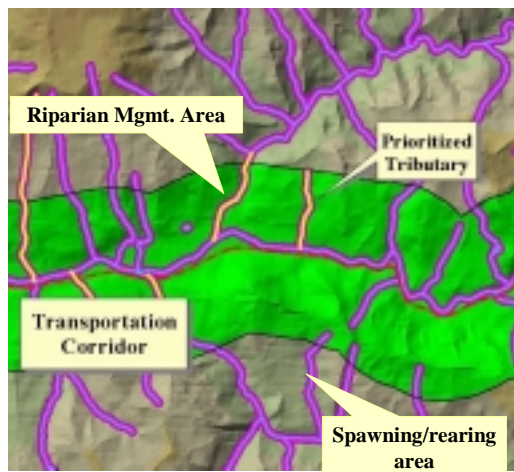
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## Vegetation Classification



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## Modeling



Development of **field-proven** modeling rules allows for the collection of data that would be too *costly* to inventory across the entire state

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## LRS: “tying” data back to the roads



## Export Data to Mapping Program

019100100S00	,1,191,00,L,	10.072,	10.116,	1,02/23/00
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# Straightline Map View

Exit from Douglas High Express (Rt. 41)

Entrance to Douglas High School (Part.)

Lower Looking Glass Creek (Rt. 406 BOLL)

Sage Ave.

Brantly Dr.

Cory Dr.

Civil Bend Ave. (Rt. 41)

12.27

12.28

12.32

12.37

12.48

12.81

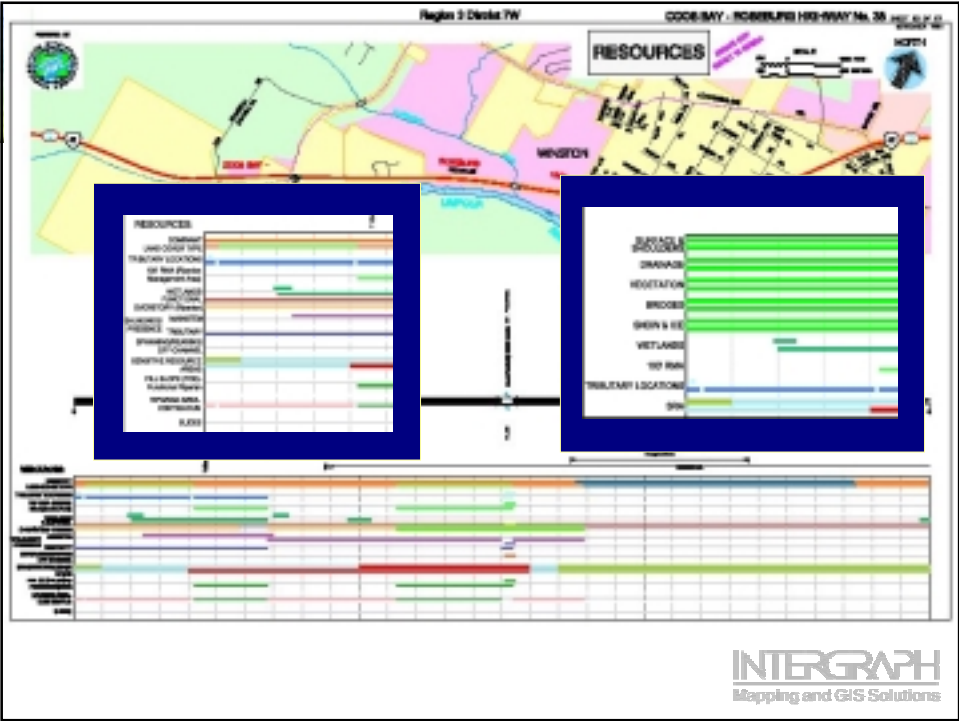
12.89

Douglas Blvd.

W

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## Benefits

- **Management System that saved time and money**
- **Used to modify Maintenance Management System to meet requirements of federal law.**
- **Allowed agency to make decisions on daily maintenance activities without having to consult with Federal Agencies**
- **Maps in maintenance vehicles**

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